

ABSTRACT OF THE DISCLOSURE

A rat ganglioside GM₁-specific $\alpha 1 \rightarrow 2$ fucosyltransferase is disclosed.

5 Nucleotide sequences of a rat ganglioside GM₁-specific $\alpha 1 \rightarrow 2$ fucosyltransferase, amino acid
sequences of its encoded protein (including peptide or polypeptide), and derivatives thereof
are described. Also described are fragments (and derivatives and analogs thereof) which
comprise a domain of rat ganglioside GM₁-specific $\alpha 1 \rightarrow 2$ fucosyltransferase with catalytic
activity. Methods of production of rat ganglioside GM₁-specific $\alpha 1 \rightarrow 2$ fucosyltransferase
10 and derivatives and analogs thereof (*e.g.* by recombinant means) are provided. Methods of
inhibiting the function of rat ganglioside GM₁-specific $\alpha 1 \rightarrow 2$ fucosyltransferase (*e.g.* by
means of antisense RNA) are provided. Methods of commercial scale use of the rat
ganglioside GM₁-specific $\alpha 1 \rightarrow 2$ fucosyltransferase in the production of fucosyl-saccharide
15 compositions are described. Applications of these compositions, *e.g.* as additives for human
nutritive compositions or immunotherapeutics for cancer, are disclosed.

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